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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/416,715	10/13/1999	MANFRED LEMBKE	10191/1201	6509

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 02/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/416,715

Applicant(s)

LEMBKE ET AL.

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this c mmunication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,8-10 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,8-10 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice f References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09 December 2002 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

3. Claim 14 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 14 requires the coating to be applied to the inner walls of 'components'. However, independent claim 1 requires the coating to contact the outer surface of a sensor or actuator element.
4. Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the

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claim(s) in independent form. Claim 15 requires the coating to be applied to the inner walls of gas-supply or air-supply channels. However, independent claim 1 requires the coating to contact the outer surface of a sensor or actuator element.

5. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 16 requires the coating to be applied to the inner walls of housing groups surrounding the element. However, independent claim 1 requires the coating to contact the outer surface of the element.

Claim Rejections - 35 USC § 103

6. Claims 1, 4-6, 8-10, 12, 13, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui et al. (U.S. Patent 5,465,618) in view of Gruner et al. (U.S. Patent 4,345,465).

Yasui et al. teach a thermal flow sensor provided at a predetermined position within a housing defining the main passage of a fluid (column 1, lines 9-31). The sensor comprises a zirconia base with resistor elements made of platinum or nickel, i.e. metals (column 4, line 35-column 5, line 5). The sensor further comprises a protective layer over the resistor elements and zirconia base in areas not covered by resistor elements (column 4, lines 55-57).

Yasui et al. is silent regarding the composition of the protective layer.

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Gruner et al. is directed to flow sensor (column 1, lines 5-13). A protective layer of a polymer comprising hexafluoropropylene is used to prevent dirt contamination and subsequent changes in the response speed of the device (column 3, lines 18-25).

One of ordinary skill in the art would be motivated to use the polymer comprising hexafluoropropylene as the protective layer of Yasui et al. to prevent the accumulation of dirt on the sensor and resulting change in response speed.

Regarding the limitations of claims 4, 5, and 10, the stability temperature, surface energy, and decomposition temperature are taken to be physical properties of the material. Since Gruner et al. uses a fluorinated polymer for the protective coating as is done in the instant application, the protective coating of Gruner et al. is taken to inherently possess the same material properties as that of the instant invention.

Moreover, the protective coating of Gruner et al. is taken to pass a cross-cut test since it is the same material as used in the instant invention and is designed to act as a protective layer.

Therefore, the inventions of claims 1, 4-6, 8-10, 12, 13, and 17 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

7. Claims 1, 4-6, 8-10, and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugimoto et al. (U.S. Patent 4,606,952) in view of Yasui et al. (U.S. Patent 5,465,618) and Gruner et al. (U.S. Patent 4,345,465).

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Sugimoto et al. teach an automotive fuel hose and fuel pump diaphragm comprising a laminate of a fluororubber inner layer bonded to an outer layer (column 1, lines 9-13).

Sugimoto et al. do not teach the presence of a sensor element as recited in claim 1.

Yasui et al. teach a thermal flow sensor provided at a predetermined position within a housing defining the main passage of a fluid (column 1, lines 9-31). The sensor comprises a zirconia base with resistor elements made of platinum or nickel, i.e. metals (column 4, line 35-column 5, line 5). The sensor further comprises a protective layer over the resistor elements and zirconia base in areas not covered by resistor elements (column 4, lines 55-57).

Gruner et al. is directed to flow sensor (column 1, lines 5-13). A protective layer of a polymer comprising hexafluoropropylene is used to prevent dirt contamination and subsequent changes in the response speed of the device (column 3, lines 18-25).

One of ordinary skill in the art would be motivated to use the sensor of Yasui et al. (that is designed to be used in the main passage of flowing fluids) in the hose or pump of Sugimoto et al. to allow for detection of, and subsequent control over, the rate of flow through the hose or pump.

One of ordinary skill in the art would be motivated to use the polymer comprising hexafluoropropylene as the protective layer of Yasui et al. to prevent the accumulation of dirt on the sensor and resulting change in response speed.

Regarding the limitations of claims 4, 5, and 10, the stability temperature, surface energy, and decomposition temperature are taken to be physical properties of the material. Since Gruner et al. uses a fluorinated polymer for the protective coating as is done in the instant application,

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the protective coating of Gruner et al. is taken to inherently possess the same material properties as that of the instant invention.

Moreover, the protective coating of Gruner et al. is taken to pass a cross-cut test since it is the same material as used in the instant invention and is designed to act as a protective layer.

Regarding claim 16, the hose or pump containing the probe reads on a housing for the probe.

Therefore, the inventions of claims 1, 4-6, 8-10, and 12-17 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

Response to Arguments

8. Applicant's arguments with respect to claims 1, 4-6, 8-10, and 12-17 have been considered but are moot in view of the new ground(s) of rejection.

Furthermore, regarding the combination of Sugimoto et al. and Gruner et al., the Applicant argues that the references cannot be combined because they are not analogous art.

This is not persuasive for the following reasons. The references do constitute analogous art because they are both in the same field of endeavor. Sugimoto et al. is directed to fuel hose while Gruner et al. is directed to a sensor designed to measure the flow of fuel and to be disposed within a flow channel (see Figure 3 and claims 1 and 2). Both Sugimoto et al. and Gruner et al. are in the same field of endeavor, i.e. fuel systems, and Gruner et al. is specifically designed to be used in the type of flow channel described by Sugimoto et al. Therefore, the references may be combined and the rejection is valid.

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Likewise the combination of Sugimoto et al. and Yasui et al. may be combined because the sensor of Yasui et al. is designed to be employed within a passageway through which fluid flows and Sugimoto et al. is directed to such a passageway. The invention of Yasui et al., like that of Gruner et al., is specifically designed to be employed in a fluid conduit and Sugimoto et al. teach such a fluid conduit.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (703) 305-0503.

The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for non after-final correspondences and (703) 872-9311 for after-final correspondences.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Ramsey Zacharia

Patent Examiner

Technology Center 1700

2/19/03